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ABSTRACT

The paper, originally given at a 1986 Ethnic and Multicultural Symposium, discusses the continuing underrepresentation in gifted and talented programs of Black and Hispanic children and the need for early identification and nurturing of gifted Black and Hispanic students. The Program of Assessment, Diagnosis, and Instruction (PADI) is described. The program developed a diagnostic battery which identifies students' reasoning and creativity with little dependence on academic skills through such assessment activities as diagnostic thinking tasks, peer identification, Raven Progressive Matrices, and Draw-a-Person. The instructional program centers on social studies and science to avoid the hindrance that low reading skills might entail and to provide hands on participation. Specific teaching strategies to promote thinking and discussion are utilized. The staff development program component uses peer coaching as well as summer programs to teach new teaching strategies to experienced teachers. Five years of PADI has resulted in screening approximately 8,0000 students, instruction of over 1,000 students and training of more than 40 PADI teachers. (DB)

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Finding and Nurturing Potential Giftedness Among Black and Hispanic Students

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Paul Torrance said in 1970 that the greatest source of untapped talent in the nation lies among the disadvantaged minority population (Torrance, 1970). The information in this chapter is intended to cast light on the thorny problem facing school districts across the nation, the historic underrepresentation of Black and Hispanic youngsters in programs for the gifted and talented. Over a period of 5 years, efforts by the school system in Montgomery County, Maryland, to increase the participation of Black and Hispanic students in such programs were largely unsuccessful. This is a large suburban school system with minority enrollment of approximately 30%. The minority population in individual schools, however, ranges from a low of 6% to a high of 90%. To address the inequity in gifted programs more boldly, a research effort was initiated over 6 years ago (Johnson, Starnes, Gregory, & Blaylock, 1985).

During the developmental period of this project, an effort was made to find out as much as possible about unrecognized minority students who are gifted and talented or who possess the potential to be gifted. It became apparent that these students are not a homogeneous group. Many of these youngsters have the ability to be identified as gifted and talented and would be successful in existing programs. Refinement and consistent implementation of the multiple criteria identification process and provision of a support system for schools has fostered the recognition and selection of some of these students as gifted and talented. This gradual improvement in the participation of Black and Hispanic students, however, does not yet ensure equity of opportunity for these students.

Some practitioners in the field of gifted education have looked toward the emergence of a new test as a potential solution to inadequate minority identification. The experiences of this project indicate that the problem is much too complex to be resolved by a new assessment instrument (Gregory, 1985). The Program of Assessment, Diagnosis and Instruction (PADI) was developed to pursue the exploration of ability among a much larger group of minority students, those not yet at the level of giftedness. The approach taken by PADI is grounded in the belief that potential giftedness can be found among a very diverse group of youngsters—among students with deficits in their basic skills, among students with limited English proficiency, among disadvantaged and minority students whose experiences may distance them from the mainstream. They might be characterized as a group of children who come to school in kindergarten and first grade less ready to profit from the school experience. School may not be a comfortable environment for them, and their strengths and abilities may not easily translate into school activities. They are often prevented from refining and extending their skills because of barriers to their development such as poverty, lack of early

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enrichment experiences, developmental delays, and differences in languages or culture (Gregory, 1987). If they are slow in learning to read and write, recognizing their potential becomes even more difficult (Whitmore, 1980). Frequently, their abilities are not evident in their daily classroom performance.

As challenging as discovering these students may be, it is only the first step. They require an approach that focuses on early identification and nurturing. Regardless of their abilities, they cannot be placed in existing gifted programs because they do not have the skills to be successful.

This program tries to go beyond simply increasing the numbers of gifted minority students. PADI is pursuing an overall goal that relates more broadly to increasing minority achievement. In fact, PADI is interested in making these youngsters effective learners so that they can profit from all that school has to offer them. PADI is not a program for the gifted. It is a program to identify and foster potential which also enables "hidden" gifted students to emerge and refine their skills sufficiently to move into programs for the gifted.

THE DIAGNOSTIC BATTERY

It is obvious that before students with potential can be nurtured instructionally, they must be identified. The first task in PADI was to develop a process for uncovering these students. This section deals with that process.

PADI proceeded with the notion that the potential ability or hidden giftedness of these students could be tapped, if it were assessed in subtle and nontraditional ways. One of the real strengths of PADI lies in the time and care taken to assess the strengths of each individual child through a special diagnostic battery. The battery itself is a unique tool because it teases out information on students' reasoning and creativity with little dependence on their academic skills. There was a deliberate effort to find assessment techniques that give evidence of these abilities while bypassing any limitations posed by language and experience.

The diagnostic battery was refined by extensive experimentation, implementation, and subsequent validation. Approximately 400 children originally participating in the diagnostic battery activities were also given the WISC-R (Wechsler Intelligence Scale for Children-Revised) performance scale. This served as the criterion measure for validation of the battery. Some measures were discarded because they did not contribute to the prediction of WISC-R scores. A thorough discussion of the validation procedure is contained in an article in *The Journal of Negro Education* (Johnson et al., 1985). The version of the battery which resulted consists of seven assessment activities. These activities are generally conducted in the regular classroom with all students participating. A specially trained team of testing assistants administers the diagnostic battery over a period of 1–2 weeks. A brief description of each assessment activity follows.

Cartoon Conservation Scale

This paper-and-pencil test, developed by Edward DeAvila, uses a cartoon format to assess Piagetian conservation concepts (DeAvila & Havassy, 1975). It measures the child's mastery of conservation of number, length, substance, distance, horizontality of water, conservation of volume, egocentricity, and probability.

Diagnostic Thinking Tasks

Informal thinking tasks have long been advocated as an adjunct to the Montgomery County Public Schools' identification procedures for gifted and talented students. These informal activities are a useful technique for gaining additional information about the way children reason, think creatively, and solve problems (Gregory, 1985). It is also relatively easy to use tasks that are not content based or heavily dependent on language skills. The items included in the Diagnostic Thinking Tasks are as follows:

- Design Completion—Completing an incomplete pattern formed by geometric shapes.
- Block Counting—Counting seen and unseen blocks in a simple structure.
- Triangles—Counting triangles in an embedded figure.
- Missing Numbers—Finishing an incomplete number sequence.
- Creatures—Identifying attributes among imaginary creatures.

Student Interview/Peer Survey

Peer judgment is a useful tool in the identification of able students (Granzin & Granzin, 1969). Some school systems have had success soliciting peer information in an interview format with young children in grades K–3. Testing assistants interview students in small groups of six to eight, discussing questions such as "Which boys and girls are the first to explain to others how games are played or how things are done?"

Rating Student Potential Checklist (RSP)

This particular teacher checklist was developed by the project based on specific cultural strengths highlighted in the literature. Most of the characteristics were suggested by the work of Paul Torrance with disadvantaged Blacks and of Ernest Bernal with Hispanic students (Bernal, 1978; Torrance, 1969).

Coloured and/or Standard Progressive Matrices (Raven)

This assessment instrument uses figural analogies to tap logic and reasoning (Raven, 1938). It does not require reading. More recent norms representative of U.S. populations are now available.

Circles Activity

This activity is adapted from Paul Torrance's Minnesota Test of Creativity (Torrance, 1964). Pilot use of this activity was conducted in order to determine the optimum size and number of circles for a particular age level. Children use pencil to draw on nine large circles on a single page in order to create something. They can either make something different out of each circle or they can use several circles together to make something.

Draw-a-Person

This paper-and-pencil drawing task assesses maturity and developmental level. It is a test which is often used in cross-cultural studies (Harris, 1963). The project uses the expanded scoring format developed by Dale B. Harris.

After the total diagnostic battery has been implemented in the spring of Grade 1, local standards of performance are computed for each activity at each individual school. This ensures that students will be compared only to peers in their own schools. Students already identified as gifted and talented are not potential PADI candidates. All remaining students are ranked from highest to lowest performance on the seven activities. Each assessment activity carries equal weight in the evaluation of student performance. Those students demonstrating strong performance, at least one standard deviation above the mean, on three or more activities are candidates for placement in PADI. There is also provision for the administrative placement of students for whom strong evidence of potential ability exists. This provision is most often used to place limited-English-proficient students whose language skills may inhibit their performance on the diagnostic battery.

PADI has been implemented only in schools with a combined Black and Hispanic enrollment of 30% or more. Some PADI schools have minority enrollment of close to 80%. Once a school is selected to participate in the project, race is not a factor in the selection of students. Occasionally more students may qualify than can be accommodated in the PADI class, and

minority students may be placed ahead of majority students with the same performance on the diagnostic battery. This is seldom necessary, however. Figure 1 compares overall elementary enrollment in Montgomery County by race to participation in gifted and talented programs and participation in PADI. Clearly race is not a barrier to participation in PADI. The diagnostic battery taps potential across ethnic groups and helps to uncover potentially gifted students previously unrecognized by their schools.

INSTRUCTIONAL PROGRAM

The heart of PADI is the instructional program that has been developed to nurture the potential of students with hidden strengths primarily in grades 2 through 4. Initially discovered through their performance on the diagnostic battery, these students give further

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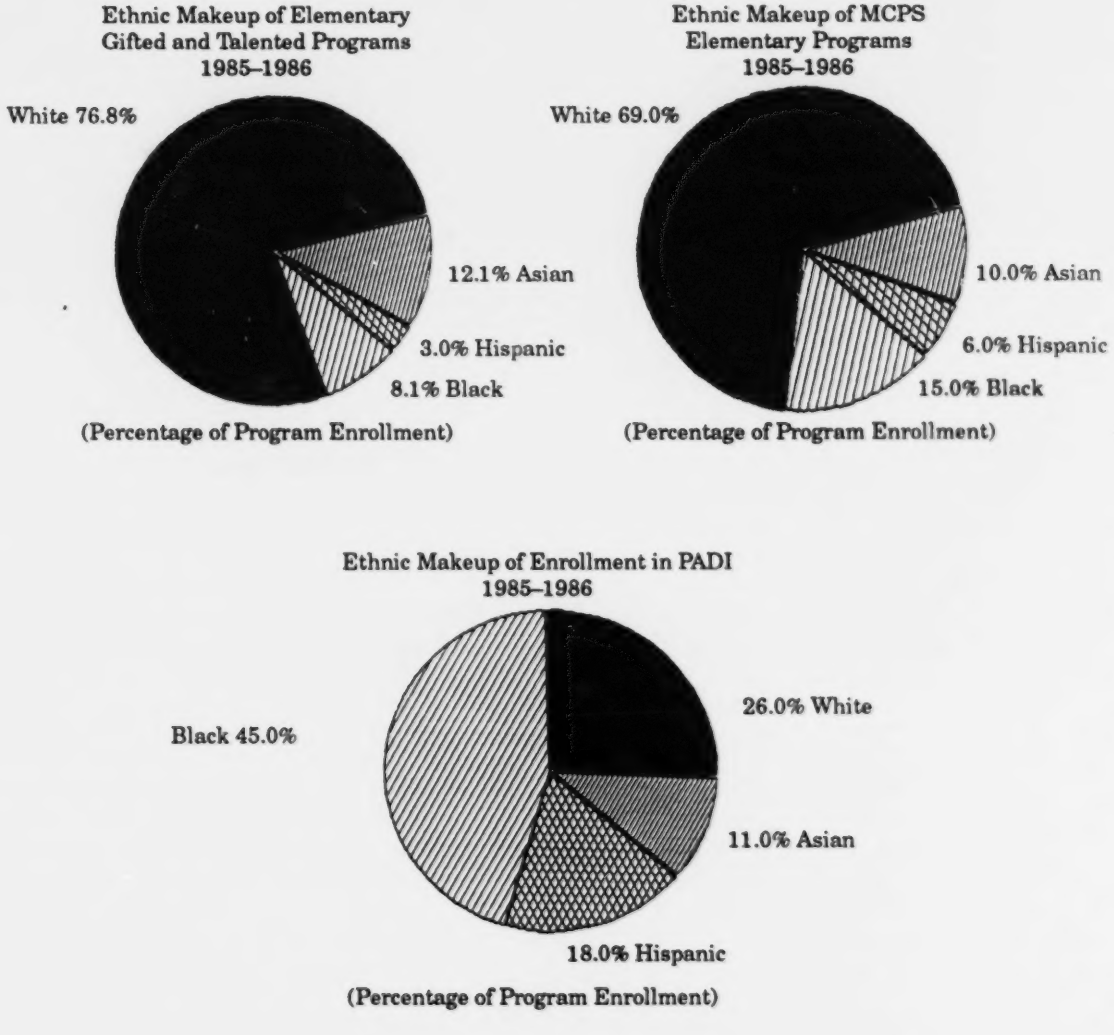
FIGURE 1

Comparison of Participation by Race



evidence of their abilities as they interact daily with the instructional demands of the program. This is an approach to assessment the project calls "identification through teaching." Rather than identifying gifted students at one specific time, staff members can refine their judgments about how individual PADI students meet the cognitive demands of the program, based on observations over time. PADI, then, has a commitment to long-term nurturing of these students. The self-concept and learning problems of most PADI youngsters cannot be resolved in a few months or even in a year. In contrast, in an early childhood program in Illinois, students are moved out after one year if they have not been identified as gifted (Karnes, Bertschi, 1978). The changes and growth many disadvantaged/minority students must make will take more time.

What is special about the PADI instructional program? Most nurturing programs designed for minority students focus on language arts. PADI is somewhat unique in the selection of social studies and science as the content vehicles for the program. These students, in particular, need a program which emphasizes an area of the curriculum where they are not experiencing difficulty. Since social studies and science instruction does not require a basal text, students are much less hindered by low reading skills. These content areas also build on a natural interest and curiosity disadvantaged children frequently have about their own environment (Stallings, 1972). Social studies and science also promote the hands-on participation of students PADI requires. Daily writing for fluency on topics related to current study is incorporated into PADI instruction. Students have frequent opportunities to read for information about subjects they are highly motivated to investigate further. In addition, PADI uses interdisciplinary extensions to all units so that students pursue activities involving art, music, movement, drama, and literature. Daily learning activities continually reinforce students' language skills, though the primary focus is on science and social studies.

PADI is designed, then, to provide daily instruction in social studies and science. With the exception of two half-time teachers funded by the project, the remaining 33 teachers come from regular staff in the PADI schools. These teachers all assume responsibility for the social studies and science instruction of the specially selected PADI students. Most schools regroup students in the afternoon in order to set up the PADI class. Several teachers at a grade level may exchange students in order to gather the PADI students into a single group with the PADI teacher. Some of the students may have this same teacher in the morning for reading/language arts and math. Others have one classroom teacher in the morning and the PADI teacher in the afternoon. Each PADI class strives to meet for 90 minutes of social studies and science instruction each day. The consistency of this daily instruction promotes the long-term nurturing of student potential.

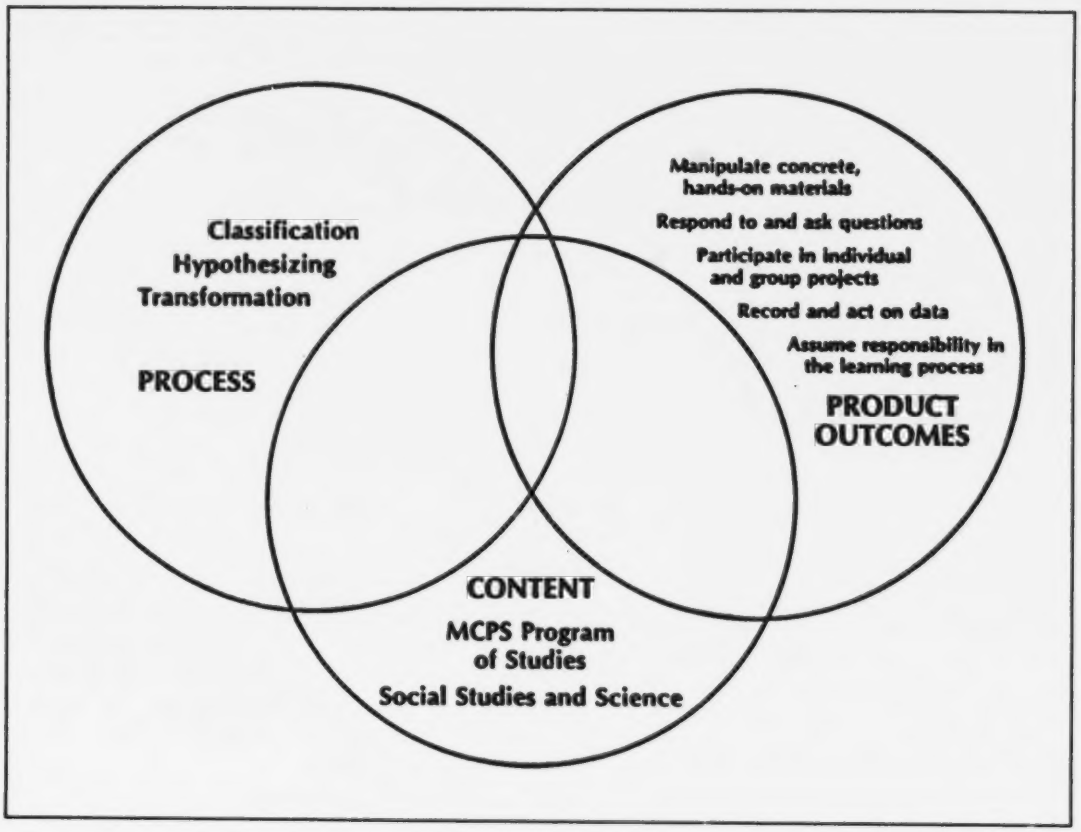
As Figure 2 illustrates, the *basis* of instruction in PADI, shown in the lower circle, is the school system curriculum in social studies and science. PADI students work on the same objectives and many of the same units as other students at their grade level. Instruction differs in the special emphasis placed on the three thinking skills indicated in the left-hand circle: classifying, hypothesizing, and making transformations. More time may be spent in a PADI class on activities promoting these skills.

The right-hand circle presents the expectations or product outcomes of PADI instruction. As shown in the enlargement of this circle in Figure 3, an important outcome of PADI instruction is the active involvement of students in their own learning. Social studies and science guarantee this involvement, the manipulation of concrete objects, and frequent opportunities to collect and analyze data. Responding to and posing questions is a natural outgrowth of group discussions in PADI. Although such activities are time consuming, it is critical for these students to refine their thinking through reflection and dialogue on the various concepts explored. These expectations are all designed to promote improved self-concepts for learners and growth in both academic and critical thinking skills.

PADI uses a select group of teaching strategies or activities which promote thinking and discussion and which demonstrate the integration of the content, the thinking skills, and the expectations of PADI instruction. They are referred to as exemplars. They are a particular

FIGURE 2

Elements of PADI Instruction



focus of the teacher training component which is discussed later. The eight PADI exemplars are listed below:

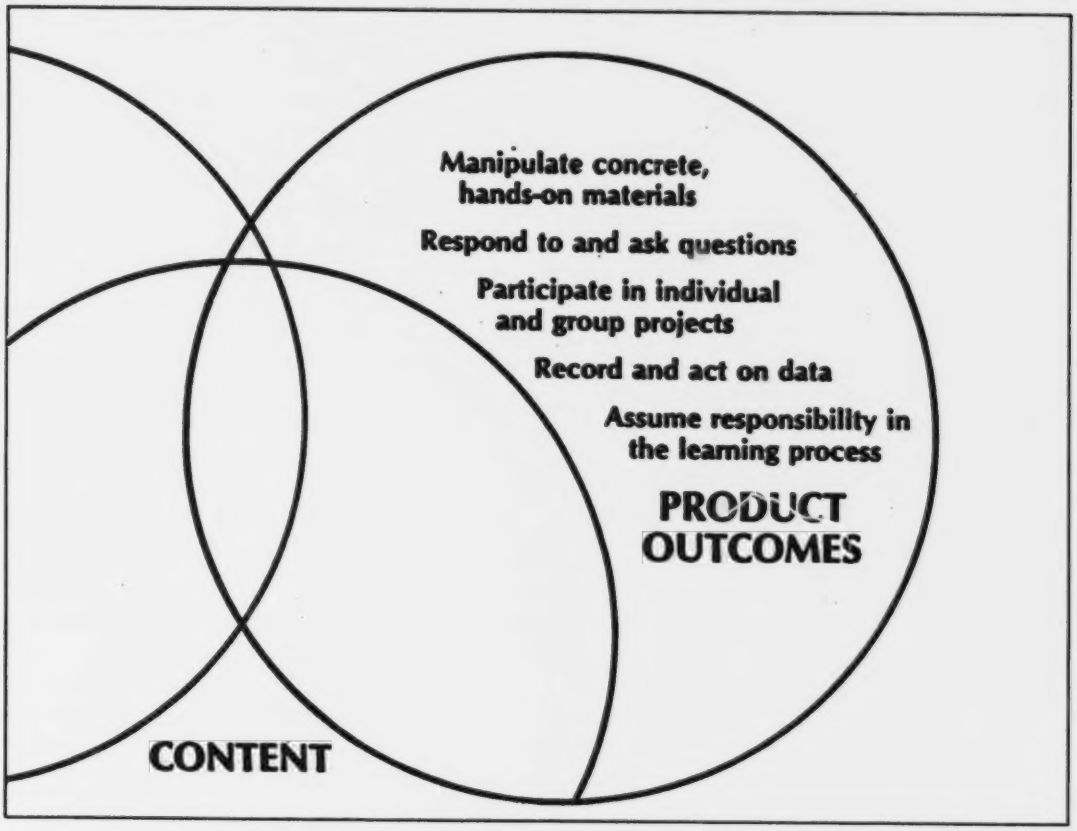
- Guess Box
- Collection
- Comparison Circles
- Picture Interpretation
- Music Interpretation
- Science Investigation
- Word of the Day
- Webbing

RESULTS

PADI has monitored the program's effectiveness through both formal and informal evaluation efforts. The first positive results stem from validation of the Diagnostic Battery with the WISC-R Performance Scale. The battery does indeed tap potential among a diverse group of youngsters regardless of their current academic performance. It identifies the most varied

FIGURE 3

Product Outcomes of PADI Instruction


Manipulate concrete, hands-on materials
Respond to and ask questions
Participate in individual and group projects
Record and act on data
Assume responsibility in the learning process
PRODUCT OUTCOMES
CONTENT

group of students imaginable—diverse in ages, skills, and backgrounds, but similar in their ability to think and reason at a higher level. The time and effort required for the administration of this diagnostic battery is well worth it because many of these students are the very ones who would not be recognized and challenged, and whose potential giftedness might therefore be lost.

The second positive result grows out of the movement of students from PADI into gifted and talented programs. Continuous monitoring of PADI students has enabled the project to track students as they leave the program. Out of the first 400 PADI students, over 125 were identified as gifted and talented. Every year additional students have been identified as gifted, leaving the PADI class to participate in even more challenging instructional opportunities. Over the past several years the percentage of students making this transition seems to be holding at between 25% and 30%.

Equally exciting as the movement of students to programs for the gifted and talented has been the significant impact of this program on the students remaining in PADI. These students have changed their concepts of themselves as learners. Parents, classroom teachers, principals, and counselors have all reported dramatic changes in these students' attitudes toward school and learning. An advisory committee made up of parents, community members, and staff has guided the project for over 7 years. At PADI Advisory Committee meetings parents will comment that "PADI is the best school experience my son has had." "There is such a difference

in how he feels about school." "She can't wait to get home to tell me what she did in PADI science class."

Through the formal evaluation component the project is collecting objective data to study growth in writing fluency and in skills in social studies and science. Following students over time to see how they are faring after their PADI experience will also provide valuable insights into the program's impact.

TEACHER TRAINING

Just as students need to participate in a long-term nurturing instructional program, teachers need training and support provided over a long period of time. Employment of new teachers in this district for a number of years has been minimal. This means that PADI teachers come from a pool of older, more experienced teachers. It takes time to change the way experienced teachers operate in the classroom. Intensive summer training, demonstrations by master teachers, periodic workshops during the school year, and practice of the instructional strategies with peer feedback make PADI a unique experience for the teachers as well as the students.

The work of Joyce and Showers (1982) influenced the project to adopt peer coaching as an important aspect of the staff development component. For the past 3 years, teachers have worked on the refinement of their PADI instruction with the assistance of a coaching partner. The coaching process begins with the presentation, demonstration, and discussion of a specific strategy. This is accompanied by a detailed written description of the strategy. Figure 4 gives a brief example of a statement taken from the description of Comparison Circles.

The next step involves joint planning by the two coaching partners of a lesson involving the strategy. This is a lesson that one partner will teach to her PADI class while the other partner observes. Figure 5 shows a sample of questions posed to assist in planning this lesson using comparison circles.

The last step involves observation of the lesson by the coaching partner, who provides feedback on specific elements of the strategy. Figure 6 shows two elements of a lesson using comparison circles on which feedback will be given.

PADI teachers have been very receptive to peer coaching. Several teachers have commented that it is the most professionally rewarding experience they have had in their teaching career.

FIGURE 4

Comparison Circles
Description of the Strategy

The purpose of the sorting activity, the size of the collection, and the number of students in the group are all factors which influence the size and kind of strings or circles to be used.

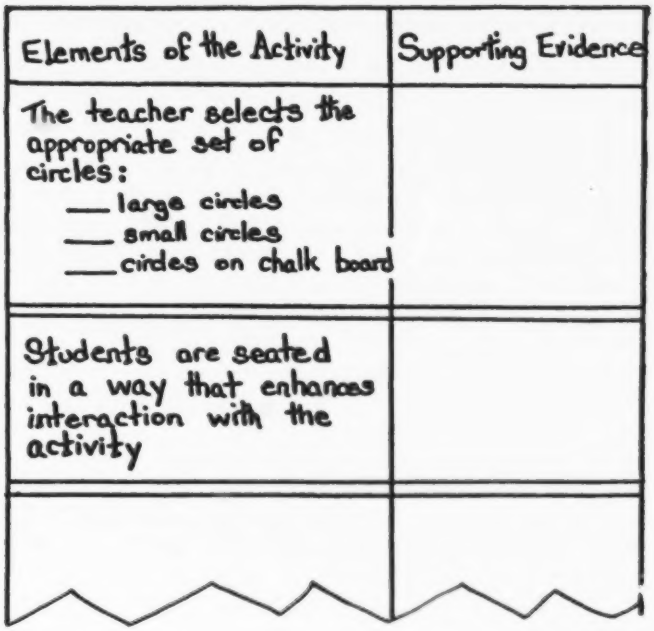
FIGURE 5

Comparison Circles
Planning Sheet

What items are to be sorted? What kind of circles shall I use? How shall the students be seated?

FIGURE 6

Comparison Circles
Guidelines for Observing/Coaching



Elements of the Activity	Supporting Evidence
The teacher selects the appropriate set of circles: ___ large circles ___ small circles ___ circles on chalk board	
Students are seated in a way that enhances interaction with the activity	

One teacher commented recently, "The training and support you have given to us in PADI is much stronger than anywhere else. This is superior training. Then we give it back to the kids." Another said, "We have time to talk together about what works. During the summer and through coaching, a network is set up. We are not isolated." *Companionship* is an important key. A coaching partner, who is struggling to achieve the same instructional goals with the same kind of students, can provide collegial support not otherwise available. This long-term training process with peer coaching has been a significant factor in the success of PADI.

SUMMARY

PADI combines three critical factors: (a) subtle and nontraditional assessment, (b) long-term nurturing of students' academic and thinking skills, and (c) a sophisticated approach to teacher training and support. Five years of experience has seen the screening of approximately 8,000 students, the instruction of over 1,000 youngsters in PADI, and the training of more than 40 PADI teachers. These experiences confirm that early recognition and nurturing of potential among Black and Hispanic students provides immeasurable benefit to the students themselves and ultimately to society.

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